



# RIC 2004: Emergent Technical Issues Session T-11

---

Dr. Brian W. Sheron, Associate Director  
Office of Nuclear Regulatory Regulation  
U. S. Nuclear Regulatory Commission  
March 11, 2004



# Session Agenda

---

- Present a range of viewpoints on emergent technical issues
  - Mr. Chris Crane, President and Chief Nuclear Officer of Exelon Nuclear
  - Mr. Tom Jordan, Vice President, Engineering & Technical Services, South Texas Project (STP)
  - Mr. Wayne Lanning, Director, Division of Reactor Safety, USNRC Region I
  - Mr. Alex Marion, Senior Director, Engineering, Nuclear Energy Institute
- Open Discussion



# Ensuring Openness

---

- ❑ Openness Is Critical To:
  - ❑ Ensuring transparency in our communications and early public involvement
  - ❑ Promoting two-way communication on emergent technical issues
  - ❑ Demonstrating respect for the role of the public and our stakeholders in the regulatory process



# Communication

---

- The NRC is making communication an integral part of conducting business
  - Public Outreach
    - More NRC public meetings held within the local vicinity of the plant
  - Public Workshops
  - Press Releases
  - Newspaper Ads
  - Media Sheets
  - NRC Public Website



# Emerging Technical Issues

---

- ❑ Materials Degradation
- ❑ Emergency Core Cooling Sump



# Managing Degradation

---

- Summary
  - Materials exposed to reactor environment will continue to degrade with time and operation
  - National and international technical communities are involved
  - Programs addressing currently identified degradation – technical and regulatory
  - Research program addressing
    - Potential new degradation mechanisms
    - Inspection and monitoring techniques
    - Mitigation and repair strategies
  - NRC and industry are aware of need to aggressively handle degradation as it emerges



# Materials Degradation Issues

---

- ❑ Reactor Pressure Vessel Head Degradation
  - Upper vessel head
  - Lower vessel head
- ❑ Cracking of pressurizer heater sleeves
- ❑ Boric Acid Corrosion
- ❑ Leak Detection



# Emergency Core Cooling Sump

---

- Sump Clogging is a credible concern for PWRs
  - Technical Assessment Completed
  - Risk Assessment Completed
  - Bulletin 2003-01 Issued June 2003
  - Future Plans
    - Communications with Stakeholders
    - Generic Letter Issuance
    - Final Resolution of Issue
  - Communication Tools – Redesigned GSI-191 Webpage
    - <http://www.nrc.gov/reactors/operating/ops-experience/pwr-sump-performance.html>



# PWR Sump Images

---





# Summary

---

- ❑ The NRC is committed to keeping the public informed and believes that a responsible, effective regulatory process cannot succeed any other way.
- ❑ Managing challenging issues in a rapidly changing environment
- ❑ The NRC staff has high confidence that these emerging issues are on the path to resolution